بسم الله الرحمن الرحيم

عنوان المحاضرة: Soft tissue problems
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المحاضر: د.

1-Ganglion:

Definition: soft tissue swelling related to tendon sheath or capsule of the joint

Etiology: 1-Trauma: → defect in sheath or capsule → herniation of synovial fluid → sac
2-Degeneration of sheath or capsule

C/P: Common sites:

A) Wrist & hand: ●Between ext. pollicis longus & ext. indicis ●Beside the flex. carpi radialis
●At the metacarpal heads ●At proximal phalanges
●Intraosseous: between scaphoid and lunate bones → Scaphlunate dissociation

B) Knee C) Ankle

Examination: ●Rounded surface, soaked, not adherent to the skin but adherent to the soft tissue
●Become tense & pain ↑ with movement of the joint: flexion (if dorsal), extension (if volar)

**Bursa: is proliferation of hard material on the subcutaneous tissue (e.g. olecranon, suprapatellar)
TTT of bursa: ABs & Anti-inflammatory for 48 hrs, if patient isn't relieved → surgically drained

Treatment:

A) Medical: Anti-inflammatory (e.g. Alfentern)

B) Surgical: Aspiration, or excision (neck of sac must be removed)

2-Tenosynovitis, Tendovaginitis, Tendinitis:

●**Tenosynovitis:** Inflammation of synovial sheath of the tendon

●**Tenovaginitis:** Inflammation of fibrous sheath of the tendon

●**Tendinitis (Tendonitis):** Inflammation of tendon substance

Etiology

A) Traumatic: e.g. distal ankle

B) Non Traumatic:

1-Inflammatory (Rheumatoid- Rheumatic Fever) 2-Infective (Pyogenic – T.B. – Fungal)

3-Stenosing: that may occur at:

i) DeQuervain's tenosynovitis→ 1st extensor tendon compartment of the wrist

C/P: pain on wrist movement and with tenderness and swelling over the radial styloid process

Diagnosis: "Finkelstein's test"

Physician grasps the thumb and the hand is ulnar deviated sharply: +ve → sharp pain along distal radius

D.D. of pain at distal radius:

1-Fracture of styloid process 2-Fracture scaphoid 3-Scaphoid non-union
4-Osteoarthritis of carpo-metacarpal joint between trapezium & 1st metacarpal

Treatment:

A) Conservative: Splint + Rest + Analgesic + Anti-inflammatory for 1 week

B) Steroid local injection: if conservative failed

C) Surgical: Open and release (Decompression)

ii) Trigger thumb/ Finger → at finger's flexor tendon

-Common at thumb, middle & ring – less common at index & little

C/P: -Pain at proximal inter-phalangeal joint (while lesion is at metacarpo-phalangeal joint)
-Catching finger/thumb: the finger or thumb that is affected locks in a flexed position
-Tenderness & swelling may be felt at base of the finger

Treatment: as DeQuervain's disease

iii) Intersection syndrome: (Exam Q)

Definition: Stenosing tenosynovitis between 1st & 2nd extensor compartments

Mechanism of injury: repetitive wrist flexion and extension e.g. Weightlifters

C/P: Swelling or crepitus 4-6 cm proximal to Lister's tubercle

TTT: Medical or Injection, no Surgical

****Congenital tenosynovitis:**

Incidence: 20%, Affects the little finger bilaterally (flexion deformity)

3-Carpal Tunnel Syndrome:

Definition: compression of the median nerve under transverse carpal ligament

Etiology:

1-Idiopathic (70%), common in female (↑ at night), more in the dominant hand, 50% bilateral

2-Traumatic: ●Mal-union of fracture radius (e.g. Colles #) ●Lunate dislocation ●Trapizium # ●hematoma

3-Degeneration of median nerve

4-Acromegally: d.t. thickening of bones & ligaments

5-Antomical abnormality: (more structures → ↓ space → compression)

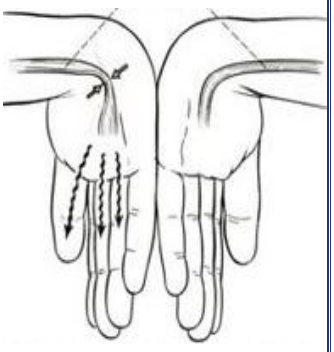
- ●Palmaris longus passes or Flexor digitorum superficialis pass deep to the retinaculum
- ●Sensory branch of median pierces the transverse carpal ligament

6-Tenosynovitis (Rheumatoid, Rh. Fever) 7-Infection 8-Renal dialysis patient

C/P: -Numbness at the medial 3½ fingers

Diagnosis:

A) Clinical:



1-Phalen test:

Flexing the 2 wrists gently as far as possible against each other, then holding this position for 60 sec, +ve test → numbness in the median nerve distribution

2-Tinel's sign:

percussion the skin over the flexor retinaculum to elicit a sensation of tingling or pain in the nerve distribution (usually +ve after 6 months when complete demyelination of the nerve occurs)

3-Sphygmomanometer test:

Keep pressure of the cuff at level between patient's systolic & diastolic blood pressures (10 mmHg above diastolic) and hold it for a while in order to make venous congestion (not above systolic as it would induce ischemia), If +ve symptoms appear

B) Radiological:

Carpal Tunnel View: hand is maximally dorsiflexed using the opposite hand or a strap while palmar surface of the wrist rests on the cassette



C) Electrical:

1-Nerve conduction study: slowing of nerve conduction across the wrist (↑ Latency)

a) Motor conduction: normally doesn't exceed 5 milliseconds

b) Sensory conduction velocity: normally doesn't exceed 4 milliseconds

2-Electoromyography: ●Normally: monophasic ●Infection: Biphasic

Treatment:

Surgical: Open surgical division of the transverse carpal ligament with 1-2 cm segment removal to prevent the healing of the ligament again

DD of numbness & tingling:

1-Sub-acute combined degeneration 2-Disseminated sclerosis 3-Cervical disc prolapse
4-Cervical spondylosis 5-Cervical rib 6-Thoracic outlet syndrome
7-Pronator teres syndrome

- **Compression of the median nerve at the elbow d.t. lacertus fibrosis between the 2 heads of the muscle**
- **aka high carpal tunnel syndrome**
- **No ↑ of pain at night**
- **Test: pronation against resistance in extended elbow → severe pain at the nerve distribution**

8-Cubital tunnel syndrome (ulnar → lat 1½)
9-Wartenberg's Syndrome: entrapment of the superficial branch of the radial nerve
10-Guyon's canal syndrome: entrapment of the ulnar nerve in Guyon canal as it passes through the wrist

Complications: 1-Atrophy of the thenar muscles 2-Recurrence 3-Infection

Compartment	Tendon
1	Extensor pollicis brevis Abductor pollicis longus
2	Extensor carpi radialis longus Extensor carpi radialis brevis
3	Extensor pollicis longus
4	Extensor indicis proprius Extensor digitorum communis Posterior interosseous nerve
5	Extensor digiti minimi
6	Extensor carpi ulnaris